TRB PERFORMANCE MEASUREMENT COMMITTEE
NEWSLETTER

VOLUME 1, NO. 2, JUNE 2003

VIRGINIA DEPARTMENT OF TRANSPORTATION "PROJECT MANAGEMENT ON THE WORLD WIDE WEB"

Constance S. Sorrell
Chief of Policy and Organizational Development
Virginia Department of Transportation
Connie.Sorrell@VirginiaDOT.org

The Virginia Department of Transportation (VDOT) is managing its construction projects in full view of the public - through its "Project

Dashboard" – a web based, one-stop information source for project status. It is an up-to date indicator of the status of VDOT construction projects being planned or under construction.

It's called the Dashboard because, just as a car dashboard can alert a driver to problems, the Dashboard alerts project teams if something working well or may be going wrong. Project teams can quickly see which projects are on schedule and on budget, or at risk of falling behind schedule or going over budget. With this information at their fingertips, the team's job is to get projects back on track as soon want you to see what we see."

TRB Summer Meeting Portland, Oregon July 13-18, 2003

The Dashboard monitors projects that are ready to go to construction and projects that are under construction. The Dashboard provides the current status on construction budgets, schedules and work orders (project changes that may result in additional cost) according to the red, yellow and green colors of a traffic signal:

- Green means the project is on track - on time, within budget and few or no work orders
- Yellow means the project is at risk of falling behind schedule, going over budget or using too many work orders
- Red means a project is behind schedule, over budget or has too many work orders

"This is first and foremost an internal management tool for VDOT project managers running construction projects," said Connie Sorrell, chief of policy and organizational development. Sorrell is responsible for the management and development of this

In This Issue

PMC Newsletter Information

Committee Chair:
Lance Neumann
Cambridge Systematics, Inc.

Editorial staff:
The PMC newsletter is edited by:

Sandra Straehl, Chief-Program & Policy Analysis, Montana Department of Transportation and can be reached at the following email:
sstraehl@state.mt.us

Submissions:

All article submissions and/or inquiries should be made in word - formatted e-documents, 500 words or less and electronically sent to:

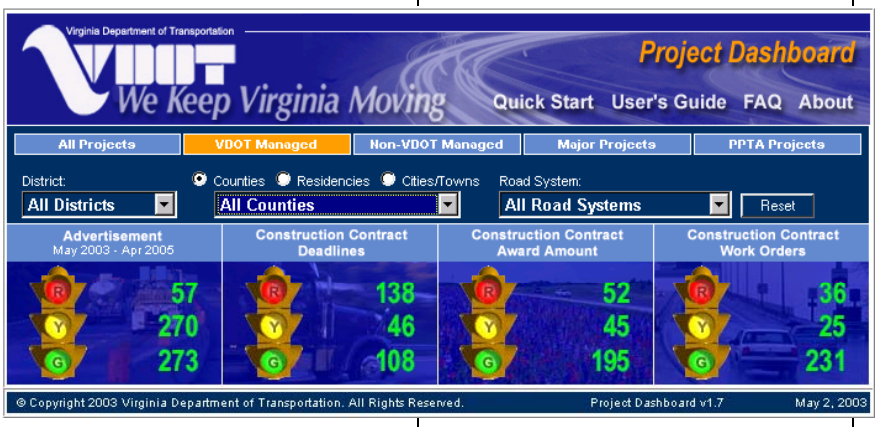
Mike Tierney
mtierney@state.mt.us

Disclaimer:

The PMC Newsletter is sponsored by contributors submitting Performance Measurement related articles to the editor and do not reflect the views of the Performance Measurement Committee

performance measurement too. "We are making it publicly available for one simple reason - citizens own these projects and should have easy access to their status." VDOT invites you to view the Dashboard by visiting VDOT's Web site at www.VirginiaDOT.org <http://virginiadot.org>

The Big Picture:



This first page of the Dashboard shows the overall status of all projects being designed and developed for competitive bid (Advertisement) for the next 24 months, and the status of projects already under construction.

In the first column, the projects in development are shown in a summary for the 24-month advertisement schedule. By selecting other dates in the field, the reader can select the entire Six Year Program timeframe that VDOT uses to program projects. Every major construction project that is planned over the next six years can be found and its status obtained.

Out of the 600 projects in some phase of development, 273 are on schedule to be advertised as planned over the next 24 months. Another 270 have some delay and should be managed to be on time. This is where project managers can quickly zero onto the projects that need attention. Another 57 projects show a red status, meaning that if no other actions are taken, the project will not meet its scheduled advertisement date.

A total 292 projects are currently under construction. The next three columns of the Dashboard report the on time, on budget and change order (work orders) information of the projects. Currently, 195 projects show that they will be delivered within budget and this is reflected by their "green light" status.

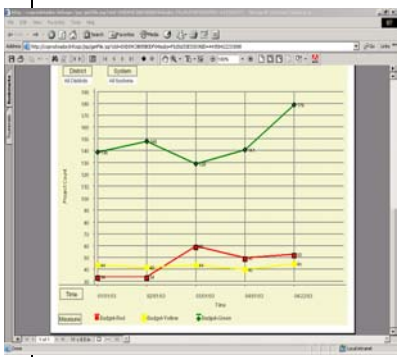
Construction Contract Award Amounts:

Now that the summary data can be tracked every day for project status, trend reports such as the one provided about for projects and their financial status can be reported. This is one of several trend reports being provided program managers.

The Dashboard also contains a number of features, including a tutorial, frequently asked questions, a search engine with the capability to search information in many fields including route number, geographic location or jurisdiction, and a spreadsheet function.

One of the most unique features is that for every project, the name of the person responsible for that project is listed on the project site and provides the ability to send that individual questions or comments about the project. VDOT expects every question about the project to be responded to within a 5-day time frame. A separate tracking system for the questions and responses is available to managers internally to ensure that responses are timely and accurate.

For further information, contact Connie Sorrell, Chief of Policy and Organizational Development, Virginia Department of Transportation at connie.sorrell@virginiaDOT.org (804-786-1476). ♦



A Guidebook on Developing a Transit Performance-Measurement System

Kittelson & Associates, Inc.
610 SW Alder Street, Suite 700
Portland, OR 97205
http://www.kittelson.com/
pryus@kittelson.com
503-228-5230

The transit industry traditionally has focused on measures relating to financial performance, partly as a result of National Transit Database reporting requirements that concentrate on measures of efficiency and effectiveness. However, transit's mission is multi-dimensional, including providing mobility options to persons both with and without access to private automobiles, providing a service that meets or exceeds customers' expectations, and integrating with other components of the transportation system. Traditional performance measures are not well-suited for assessing transit's performance in these areas.

While some transit agencies have always measured customer satisfaction, not until recent years have national efforts comprehensively addressed customer perceptions of service quality. Furthermore, the industry has often neglected to measure its impact on the communities it serves, even though doing so could provide support and justification for increasing the amount of community resources devoted to transit.

Finally, the industry has lacked a rigorous process for determining the most appropriate performance measures for a given agency; specifically, a set of measures linked to an agency's goals and objectives. Without such a process, an agency is hard-pressed to determine how well it is meeting its core objectives.

To satisfy these needs, Transit Cooperative Research Program (TCRP) Project G-6 developed *A Guidebook on Developing a Transit Performance-Measurement Program*. This Guidebook helps transit system managers develop comprehensive programs addressing customer-, community-, agency-, and vehicle-oriented issues and needs. The Guidebook can also help metropolitan planning organizations and state departments of transportation that wish to incorporate transit into regional and statewide performance measurement efforts.

The Guidebook is over 350 pages long and may appear intimidating on first glance to users. Fortunately, it is not intended to be read cover-to-cover all at once. Each chapter covers one aspect of developing a program:

- The case for measuring performance;
- Examples of successful programs;
- A step-by--step process to implement, use, and periodically update a program;
- Data needs and resources available; and
- Descriptions of more than 400 transit performance measures.

More than half of the Guidebook consists of reference material, which can be accessed by several means: question-and-answer-format performance measure selection menus, indexes of performance measures, and summaries of measures suitable for browsing.

The staff members responsible for an overall agency program may need to review all of the non-reference material at some point, but other agency staff involved only with certain aspects of the program will likely need to review only a single chapter, or sections of a chapter, for guidance on their role in the program.

In addition, a short summary of the Guidebook has been prepared to introduce transit agency managers and boards to the benefits of performance measurement and potential ways of applying the Guidebook.

A CD-ROM that accompanies the Guidebook contains an extensively hyperlinked version of the Guidebook—particularly helpful when using the performance measure selection menus—as well as the Guidebook summary. The CD also contains a Background Document that provides additional case studies and an annotated bibliography of nearly 200 documents relating to transit performance measurement. Finally, the CD provides a library of related TCRP publications and a software tool developed for the Florida Department of Transportation that provides access to the complete

National Transit Database and helps identify peer systems.

Copies of the Guidebook (*TCRP Report 88*) , the summary document (*TCRP Research Results Digest 56),* and the CD material can be obtained from the following sources:

- Printed versions, at no charge, from the TCRP Dissemination site hosted by APTA: http://www.tcrponline.org/publications_home.html
- Electronic versions, at no charge, from the TCRP website hosted by TRB: http://gulliver.trb.org/publications/tcrp/tcrp_report_88/intro.pdf

Printed versions, for a fee, from the TCRP Bookstore: http://www.nationalacademies.org/trb/bookstore ♦

HELPING CEOS USE STRATEGIC PERFORMANCE MEASURES TO MANAGE CHANGE IN DOTS

Joe Crossett and Craig Secrest,
TransTech Management, Inc.

NCHRP is producing a concise guide to help DOT Chief Executive Officers (CEOs) make better use of performance measures as they define and perform these challenging responsibilities. The guide, written by TransTech Management, Inc. draws on the experiences of DOTs in several states, including Florida, Louisiana, Maryland, Minnesota, New Mexico, Pennsylvania, and Washington State, whose efforts offer compelling evidence that performance measures are more than merely a way to track progress. Illustrated with case study examples, the guide includes a review of basic principles for strategic performance measurement, hints on picking a set of strategic performance measures, a review of individual measures that states are using, and suggestions for creating and using a performance measures framework.

MESSAGE FROM THE CHAIR

Since our last newsletter the Performance Measurement Committee has been very active and the subject of performance measurement continues to receive a lot of attention at various meetings and forums. In terms of the Committee, we have finalized our Strategic Plan and our Action Plan for the next two years. Guidance on how to obtain copies of these documents is provided in this newsletter. As we discussed at our meeting in January, plans are proceeding for the Second National Conference on Performance Measurement to be held in the late spring or early summer of 2004. Significant sponsorship has already been obtained from FHWA and I am confident that a few other organizations will provide the remaining support needed to begin serious planning activities at the end of the summer or early fall. FHWA is also considering sponsoring a peer workshop on performance measurement to be held in conjunction with the national conference or with the summer TRB Committee meetings in 2004. This workshop will be co-sponsored and organized with the Committee on Statewide Multimodal Planning and the Committee on Planning, Programming and System Evaluation. Our subcommittees on research, communications and paper review all have been active and we will provide an update on various activities at our official summer meeting in Portland in July. In addition, Connie Yew presented our Strategic Plan and Action Plan at the recent meeting of the AASHTO Standing Committee on Quality's subcommittee on performance measurement. Both at this meeting and at a subsequent meeting that I had with Ken Leuderalbert, the chair of the SCOQ subcommittee, strong interest was expressed in exploring opportunities for joint activities and meetings.

Beyond the activities of the Committee, the broader transportation community continues to focus attention on performance measurement. A recent Leadership Workshop for State DOT CEOs, held in Minneapolis, focused on three issues; strategic leadership, operations and program delivery. Performance measurement was identified as key component to address each of these issues and several of the action items identified at this session relate to performance measures. The recently released Administration's reauthorization bill also contains a number of provisions that reflect continued interest in, and support for, performance measurement. Perhaps the most intriguing provision is a proposed pilot program that would allow up to 5 states to self certify for many federal requirements based on an agreed set of performance goals and measures.

If you are aware of performance measurement related activities or studies or would like to get involved in Committee activities, please contact me or Sandy Straehl. I hope to see many of you in Portland. ♦

- Lance Neumann

In this article, two components of the guide are highlighted; functions of strategic performance measures (from the perspective CEOs), and the areas where strategic performance measures are most frequently applied.

Using Performance Measures for Multiple Functions. CEOs that use performance measures to achieve strategic objectives usually rely on them for several functions. The guide describes four major functions:

- **Internal Communication Function.** Strategic performance measurement can enable CEOs to communicate strategic priorities to their employees. At New Mexico State Highway and Transportation Department (NMSHTD), 16 "results" areas are continuously emphasized in regular performance tracking meetings that ensure managers and frontline employees focus attention and improve performance in areas of greatest concern.

- **Business Management Function.** Strategic performance measurement can provide an organizing theme and focus point for management frameworks. At PennDOT, a handful of measures that align with strategic goals form the highest level of the framework and are the driver for division-level Business Plans. These measures are supported by more detailed measures in unit-level Action Plans. Finally, there may be hundreds of individual-level measures that are part of individual employees' Performance Reviews.

- **Decision-Support Function.** Strategic performance measurement can be a planning and budgetary decision-making tool. In states that have developed integrated asset management systems, for example, decision-makers are able to use data on pavement or bridge conditions in the budgeting and planning process to help determine program needs, allocate funds, and select projects.

- **External Communication Function.** Strategic performance measurement can help a CEO tell stakeholders and customers about their agency's priorities. Such efforts can be critical to gaining stakeholder trust and respect, particularly as DOTs seek to obtain additional revenues; often, the measures are as important as the results. In Washington State DOT (WSDOT), the "Gray Book" of strategic performance measures is helping strengthen external support for WSDOT's program.

Areas where Strategic Performance Areas are Most Frequently Applied. In general, evidence from the research suggests that there are several common areas around which most DOTs should focus their strategic performance measurement efforts. A word of caution to readers -- the list focuses on a few critical measures, but in any state there are likely to be other measures, regarded as essential, that reflect unique responsibilities, organizational structure, resources, and stakeholder expectations. The list should be considered as a starting point for a journey – not a set of benchmarks against which all DOTs should be judged!

- **System Preservation.** Most DOTs invest significant resources to preserve the quality and usability of their highways and bridges. Many DOTs already collect a lot of data in this area that can be readily adapted for performance measurement purposes. Smart performance measures include pavement conditions, which can be measured based on ride quality, or a broader index that measures both surface conditions and pavement health; and bridge conditions – Federal Highway Administration (FHWA)'s bridge sufficiency rating can be universally applied to facilities in every state.

- **Safety.** The number of highway accidents leading to fatalities or serious injuries has

been, and will continue to be, a primary concern for DOTs. While some DOTs may wish to include measures that focus on specific problems (e.g., railroad crossings or seatbelt use), any strategic management approach should include some measure of fatality rates and accident rates.

Mobility, Congestion, and Access. Despite the obvious importance of addressing capacity-related goals, DOTs continue to struggle with mobility and access performance measures that are meaningful and practical. A uniform set of measures in this area is unlikely. One problem is the lag between actions and performance. Another issue is the degree to which non-DOT actions can influence results (e.g., economic trends and land use patterns.) Still another challenge is that mobility, congestion, and access mean different things in different states. With that said, the most frequent used measures in this area include: temporal and spatial trip reliability, statewide and regional accessibility, and spatial and temporal delay, and addition of new capacity in congested corridors.

Project Delivery This goal area focuses on how efficiently and effectively a DOT goes about its business. Several DOTs, as well as FHWA, do not consider this as an independent goal area; instead, it is viewed as a means to accomplishing other strategic goals. For example, some states include measurement of their project development efficiency and effectiveness under a mobility and access goal. States that want to make organizational excellence an independent goal area should consider measures that address project scheduling, e.g. average project development times or deviations between planned and actual project schedules; and project costs e.g. average costs per lane mile, deviations between planned and actual project schedules, or additional costs due to change orders.

Maintenance and Operations. All DOTs view maintenance and operations as critical functions, but the goal area covers a wide range of DOT responsibilities – anything from snow removal and mowing to sign replace and fixing potholes. Thus, establishing a common set of measures in this area is difficult. In large part, the critical measures in this area are determined by a state's operating environment and stakeholder values and, thus, should be unique to an individual state. Most DOTs will likely wish to track key maintenance activities such as snow removal, trash pick up, rest area cleanliness, animal carcass removal, and signage adequacy. Customer satisfaction is often an important proxy measure in this area.

Environment. Most DOTs consider environment an important goal, but environmental goals and measures are handled differently across states – a common goal and set of measures is difficult to imagine. Some DOTs focus on the efficiency and effectiveness of environmental processes; other DOTs look at environmentally-based outputs or outcomes; and still others incorporate environmental measures into other goal areas such as customer satisfaction, administration or mobility.

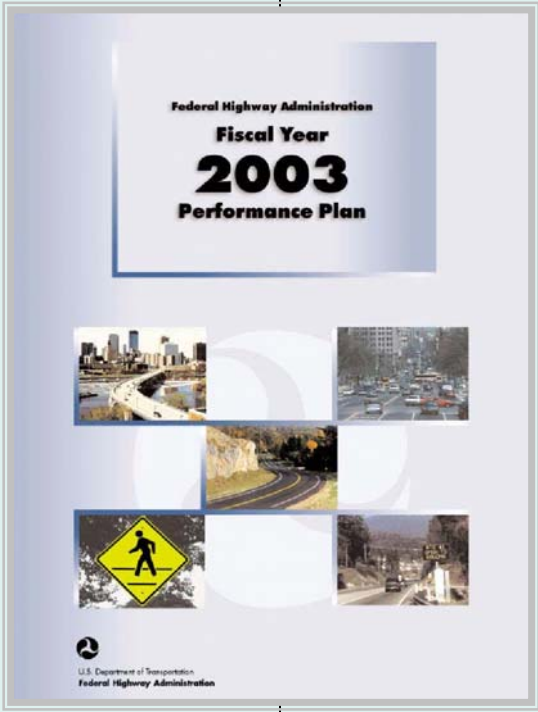
Organizational Excellence. Several DOTs include a goal area that addresses the quality of their organization; although the range of considerations widely varies from agency to agency. Some states exclusively focus on human resources issues through measures that cover training and development, recruitment and retention, and employee satisfaction. Other states include business processes under this goal area, and use measure such as those identified under project delivery.

A final version of the NCHRP Guidebook *Strategic Performance Measures for State Departments of Transportation, A Handbook for State DOT CEOs and Senior Managers*, will be available via NCHRP this summer. For more information, contact Joe Crossett, TransTech Management 202 289 3939 ext 1, jcrossett@transtechmanagement.com ♦

PERFORMANCE MEASURES OF OPERATIONAL EFFECTIVENESS FOR HIGHWAY SEGMENTS AND SYSTEMS, SYNOPSIS

Terrel Shaw
TranSystems Corporation
4500 Salisbury Road, Suite 300
Jacksonville, Florida 32216
tlshaw@transystems.com

The Transportation Research Board recently published NCHRP Synthesis 311 "Performance Measures for the Operational Effectiveness of Highway Segments and Systems". This synthesis summarizes nearly two years of work conducted on the review of research and the use of performance measures for highway operations monitoring and management. The use of more than 70 different performance measures were identified and their applicability to highway systems operations were assessed.



The synthesis included a review of the practices of thirty-five agencies that included state transportation authorities, metropolitan planning organizations and a few local governments. The measures recommended as best practices are those that can be directly reported from conditions experienced from the traveler, such as travel time, speed and delay. Measures that are derived from these basic measures were found to be less relevant in the operations monitoring and management of highway systems than to policy planners. Consistency in the definition and application of some evolving measures was identified as a recommended challenge for practitioners.

A comprehensive review of the research on-going in the area of performance measurement was also conducted in the synthesis. Several research reports were identified as seminal works and should be used as good basis in developing performance measure systems. Recent advances the research include the understanding and application of systems reliability to highway systems and segments. Several alternative definitions and applications were identified and summarized in the synthesis. Use of the Florida Reliability Method or the FHWA's "HOW Late" model were identified as the most appropriate for highway operational effectiveness. These models are consistent in their basic model, but apply the concept in a measured and modeled environment, respectively.

Additional research needs were identified that included: data quality guidelines, reporting guidelines, and consideration of statistical variation and standard errors. Guidelines for forecasting measures, considering alternative policy and development scenarios, and performance measures that support natural and man-made disasters were also identified as needs.

For additional information about the synthesis, please contact the author Terrel Shaw at TranSystems Corporation, 4500 Salisbury Road, Suite 300, Jacksonville, Florida 32216; by phone at 904-245-6500; or by email at tlshaw@transystems.com or Donna Vlasak at TRB. NCHRP Synthesis 311 should be available as a TRB "online document" within 2 weeks Time http://www4.nationalacademies.org/trb/onlinepubs.nsf/web/nchrp_synthesis ♦ *Terrel Shaw*

Performance Measures within the Kentucky Transportation Cabinet (KYTC)

Marc S. Clark
EXECUTIVE DIRECTOR, OFFICE OF QUALITY
502-564-4319 or Marc.Clark@mail.state.ky.us

The Kentucky Transportation Cabinet uses performance measures and reports them annually in a performance report (*The Path*). In recent months, we have developed a new approach to measuring our performance that is built on accountability and shared responsibility. This last year we have also strategically merged with the Kentucky Division of the Federal Highway Administration and have adopted joint goals, objectives and performance measures. This means that a measurement of success, whether measured and collected by KYTC or the local FHWA, is used by both organizations as an indicator of how well we are both performing for the users of the transportation infrastructure. Critical to the success of this approach is accountability.

For years, we have developed goals and objectives, and established performance expectations, then deployed them into and throughout the organization in hopes to move the organization to better performance in the delivery of products and services. In some cases this did not work, and in some cases the approach worked very well. Our new approach is for the Senior Leadership to set and annually review the strategic direction at the goal level only. Goals are deployed to the Division Director and equivalent levels for development of strategic objectives. We begin by asking one simple question "Here are the goals, what will you do to help achieve them?" The words and commitment of the Directors that are responsible to execute programs and processes become the strategic objectives for the joint organizations. Directors then deploy their "promises" to their management and supervisory staff for further development of activities, tasks, and commitments.

Another change in our approach is to focus on short and long-term objectives (1 – 4 years), and organizationally shoot for an annual 60% success rate. Some would say that 60% does not seem very impressive, but in an organization with 6000 plus personnel actively working on initiatives, if we can get a change in activities affecting 3600 employees per year, that's monumental. Accountability does not stop at the Division level. It is also deployed throughout our organizations as others establish what they will do to support the objectives. Each person in the organization will have ownership of achievement.

Our efforts in this area are just now beginning to be realized. We have already increased the employee perception of KYTC and FHWA working together toward common objectives. We have already started to see some relief in coordination and communication challenges that historically plagued our two organizations. We have also begun to see some streamlining of activities related to environmental processes. We feel this is only the tip of the iceberg of what's ahead. ◆ *Marc S. Clark*

IMPROVEMENT THROUGH MEASUREMENT
Integrating WisDOT Performance Measurement Data into Decision-Making

Marie Showers
Wisconsin Department of Transportation
Office of Organizational Development
marie.showers@dot.state.wi.us
608.267.6722

The Wisconsin Department of Transportation (WisDOT) recently developed a process, *Improvement through Measurement,* by which the Board of Directors will better utilize performance measurement data in decision-making at the department level. The process helps integrate performance

measurement into department managers' decision-making. Project objectives were to: identify key measures of department performance, collect and interpret applicable performance data/information for effective performance measurement; and develop a process for better applying measurement data to management action.

Existing performance measures were inventoried and analyzed to identify key measures and to identify any gaps. Department managers were interviewed to identify what performance and/or other key data they currently utilize to make sound management decisions. Comparison of department measures with what data our managers were using to make decisions led to adjustments in identifying critical departmental measures to fill gaps and better tie the department measures to the emphasis areas of our strategic plan. These department performance measures were selected based on the needs identified by department managers as well as other factors:

- Fatalities on Wisconsin Highways
- Crashes on Wisconsin Highways
- Injuries from Traffic Crashes on Wisconsin Highways
- Congestion: Volume of Traffic to Service-Flow Ratio
- Congestion: Annual Hours of Expected and Unexpected Delay
- On-Budget Component: Engineering Cost Index
- On-Budget Component: Products per Hour
- On-Time Component: Highway Program Schedule Stability
- On-Time Component: DMV Customer Satisfaction Index
- Employee Satisfaction: Employees like working at WisDOT and
- Employees would recommend working at WisDOT to others
- Customer Satisfaction: Partnership Index Overall Satisfaction
- Customer Satisfaction

Survey

Along with the internal scrutiny of existing performance measurement information and decision-making practices, we also looked at what others outside the department are doing. Several state DOT's and private organizations were contacted and provided information on their performance measurement decision-making processes and best practices.

Improvement through Measurement identifies a set schedule for reviewing department and divisions' operational performance measurement information. Specified Board meetings, led by WisDOT's Secretary, are designated to:

- set the goals/targets on departmental measures for the upcoming year;
- review departmental performance measures;
- review relationships

BE SURE TO CHECK OUT THE FINALIZED TRB PERFORMANCE MEASUREMENT COMMITTEE'S STRATEGIC PLAN

The committee on performance measurement has placed the strategic plan and action plan on the FHWA web board for public viewing. Just click the icons below.

Strategic Plan:

Action Plan

to the strategic plan and emphasis areas;
- identify existing actions that are improving performance;
- determine future actions that will improve performance; and
- review benchmarking data.

Specified Senior Managers Meetings are devoted to providing an overview of department performance and to review the divisions' operational measures. These meetings provide the opportunity for senior managers to discuss department measurement activities and outcomes. The Senior Managers Meeting has each program/business area reporting out their critical measures and the contributions to success along with information to identify:

- actions to improve performance;
- performance comparisons with other states, where applicable; and
- best practices of other states that have allowed those states to perform well.

The sponsor for each department measure is responsible for bringing to the meetings the appropriate detail-level performance measurement data and related information for utilizing the *Improvement through Measurement* process. This focus on operations performance data addresses the Board's need for on-time and on-budget data to show what value WisDOT provides for the tax dollars it receives.

The final elements of the "Improvement through Measurement" process include benchmarking activities and the development of the WisDOT Annual Performance Measurement Report.

◆ Marie Showers

Washington DOT Performance Report Traffic Tied to the Economy

Daniela Bremmer
Director of Strategic Assessment, 360-705-7953

OLYMPIA – At today's meeting of the Washington State Transportation Commission, Secretary Doug MacDonald released the latest version of the Gray Notebook, WSDOT's quarterly journal of performance measures. The ninth and latest edition of the report, which is also known as the Gray Notebook due to its gray-colored cover, is now available on the department's Web site at www.wsdot.wa.gov/accountability/.

A significant section of the ninth edition is dedicated to measuring changes in highway congestion. Just as commuters have observed, new data from WSDOT show that the drop in employment is one factor that has contributed in a drop in traffic counts on several central Puget Sound highways. The trend lines for employment and average daily traffic counts are similar, reflecting rapid growth during the 1990s and dropping off in the past few years.

"Given the loss of 80,000 jobs in this area, less traffic shouldn't be a surprise," noted Doug MacDonald, Secretary of Transportation.

The report also shows that commute patterns vary by corridor. For example, travel is down on SR 520 at 84th and the I-90 floating bridge, but volumes are up on I-5 south near 188th and SR 167 in Kent. Although traffic is up at those two locations, travel speeds are also up, indicating that the HOV and interchange projects have helped improve conditions.

In spite of the recent trends, freeway system in the Puget Sound region has very little surplus capacity around the peak periods. Once the economy bounces back, congestion is expected to return and increase with growth.

Other highlights of the ninth edition Gray Notebook include the inclusion of three new benchmarks covering administrative efficiency, transit efficiency and vehicle miles traveled per capita.

"These benchmarks were specifically requested by the legislature in January 2002 and are now set forth in law," said Secretary of Transportation Doug MacDonald. "We're pleased that these new topics have been added to the performance measures that have already made their way into the report on WSDOT's own initiative."

The benchmark on administrative efficiency reflects the agency's administrative cost in relation to its total expenditures and makes a comparison of the 50 states.

Other information that can be found in the report includes the results of a survey on the condition of Washington's Safety Rest Areas; the department's highway construction delivery; and charts on winter maintenance activity including overtime, pass closures and anti-icing chemicals used.

◆ *Daniela Bremmer*

Missouri DOT's Focus on Perfromance

SUBMITTED BY MISSOURI DEPARTMENT OF TRANSPORTATION
JUNE 2003
geyerr1@mail.modot.state.mo.us

During these difficult times of continued budget deficits, establishing effective performance management to focus on positive business results can transform an agency into a customer-driven government organization that significantly improves its operation to achieve remarkable success.

A few years ago the Missouri Department of Transportation (MoDOT) recognized the importance of performance measurement as a tool that would allow the department to assess their overall progress and demonstrate their accountability.

In July 2001, the department began completing monthly reports of organizational performance measures that were identified to provide MoDOT's management team with the information to assess the department's success in its strategic plan implementation. Reviewing performance measure reports regularly allowed the department leaders the information needed to manage resources and performance. The reports showed the level of accomplishment and progress toward goals and specific strategies in the department's Strategic and Business Plans.

In October 2002, MoDOT revised its Strategic/Business Plans and continued to identify appropriate performance measures that would provide the management team with the information to assess the department's success.

MoDOT has matured in the performance measure process and recently identified revised measures related to the current Strategic/Business Plans. Reports on these measurements are scheduled to begin in July 2003. The Dashboard is one report that includes a few of the high-level measurements that will help the department determine its overall progress. It will be prepared semi-annually. In addition to the Dashboard, each Business Unit within the department will prepare a quarterly report on their individual Scorecards that include measurements to determine progress within their particular unit.

During the past six months, MoDOT's Strategic Planning and Policy Unit has worked with the various business unit leaders to identify measures that indicate the department's performance in the various areas MoDOT has identified as priorities for FY 2004-05. In addition, input has been obtained on these recommended indicators from our district engineers, functional unit leaders as well as our stakeholders.

MoDOT is continually assessing its operations for ways to become more effective and efficient and these reports will assist with that assessment. Performance measurement is a critical function for MoDOT and demonstrates our accountability. We have made considerable progress managing the taxpayers' money wisely as it relates to transportation and will continue to look for better ways to operate, using the results from our Dashboard and Scorecards to direct us. ◆ *Rebecca Geyer*

-Other Studies & Selected Performance Measurement Research & Update Matrix-

Project 3-55 (4), FY 1995 Performance Measures and Levels of Service in the Year 2000 Highway Capacity Manual	PROJECT 8-32 (2), FY 1994 MULTIMODAL TRANSPORTATION: DEVELOPMENT OF A PERFORMANCE-BASED PLANNING PROCESS	PROJECT 20-24 (20), FY USING PERFORMANCE MEASURES TO MANAGE CHANGE IN STATE DEPARTMENTS OF TRANSPORTATION
Project 3-68, FY 2003 Guide to Effective Freeway Performance Measurement	PROJECT 20-60, FY 2003 PERFORMANCE MEASURES AND TARGETS FOR TRANSPORTATION ASSET MANAGEMENT	PROJECT 20-24 (30), FY 2003 PERFORMANCE MEASUREMENT IN CONTEXT SENSITIVE DESIGN NEW!
Project 8-43, FY 2002 Methods for Forecasting Statewide Freight Movements and Related Performance Measures	PROJECT 20-57, FY 2002 ANALYTIC TOOLS TO SUPPORT TRANSPORTATION ASSET MANAGEMENT	PROJECT TCRP E-03A, FY 1997 APPLICATIONS FOR IMPROVED INVENTORY MANAGEMENT FOR PUBLIC TRANSIT SYSTEMS NEW!
	PROJECT 20-24 (14), FY 200 MANAGING CHANGE IN STATE DEPARTMENTS OF TRANSPORTATION NEW!	

National Cooperative Highway Research Program - Pending Project

Project 20-24(30), FY 2003
Performance Measurement in Context Sensitive Design

Background: Traditional methods of measuring the success of transportation projects have focused on cost, schedule, capacity, mobility, and safety. These measures do not provide transportation agencies and transportation project managers with the information they need to assess the success of projects completed within the contemporary context sensitive environment. Consequently, there is a need to research and define performance measures to complement those currently being used or developed to support the transportation-project planning, design, and implementation process.

Objective: The objective of this project is to propose model performance measures for context sensitive design implementation. This effort will complement ongoing benchmarking efforts.

Tasks: (1) Survey states, cities, and other countries on appropriate parameters and benchmarks for achieving context sensitive designs and use results to establish benchmarking yardsticks. (2) Develop a synthesis of measures being used and desirable measures that are not used because of the unavailability of data or software. (3) Identify project, program, and agency measures used to evaluate context sensitivity, including those used to measure efficiency, effectiveness, cost, customer satisfaction, and other aspects. (4) Submit the draft final report. The report should be simple and practical and provide specific directions on how a transportation agency can generate and use the performance measures effectively.

Status: Statements of qualifications have been received and evaluated. A proposal has been requested from the research team deemed to have the best chance of meeting the project objective.

For information on obtaining printed copies or online versions of any TRB publications mentioned, click here.

This information was last updated on 04/25/2003.

To create a link to this page, use this URL:
http://www4.trb.org/trb/crp.nsf/All+Projects/NCHRP+20-24(30)

Transit Cooperative Research Program - Completed Project

Project E-03A, FY 1997
Applications for Improved Inventory Management for Public Transit Systems

As a part of TCRP Project E-3, Inventory Management for Bus and Rail Public Transit Systems, U.S. transit agencies were surveyed for information on current inventory management practices, benchmarking the values of performance measurement indices use, and analyzing the impact of organization and policy decisions on inventory performance.

The survey process used during the research phase yielded valuable information regarding the interrelationships between inventory management and organizational decision factors. However, the conclusions based on the information are preliminary at best. Therefore, the conclusions should be developed into hypotheses for more detailed testing in a more controlled environment, where individual effects can be more effectively isolated and quantified.

The objectives of TCRP Project E-3A were (1) to further isolate and the test results in a real environment considering demographics, fleet size, and composition, organization, inventory management practices, performance and technology, and information systems; and (2) using a controlled environment test, to demonstrate that the conclusions reached from the research phase were valid or to identify adjustments required to implement the conclusions in "real world" conditions.

Status: The final report has been published as TCRP Research Results Digest 40, "Revised Inventory Management Desk Guide." The digest summarizes the results from five case studies conducted and analyzed to determine the relationship between inventory control and management, the conditions under which inventory management techniques are best applied, and the solutions to potential problems when applying the inventory control techniques. The final report describes the research approach and the analyses performed during the course of the TCRP E-3A Project. The report is available asTCRP Web Document 17 in portable document format (PDF). (A free copy of Adobe Acrobat Reader is available at http://www.adobe.com.) Click on the link below to access the report. NOTE: Because of the very large size of this file, it will take some time to download. We regret the inconvenience.

TCRP Web Document 17

TCRP Research Results Digest 40

For information on obtaining printed copies or online versions of any TRB publications mentioned, click here.

This information was last updated on 03/24/2003.

To create a link to this page, use this URL:
http://www4.trb.org/trb/crp.nsf/All+Projects/TCRP+E-03A

National Cooperative Highway Research Program - Completed Project

Project 20-24(14), FY 2001
Managing Change in State Departments of Transportation

Change Management in State DOTs

State departments of transportation are operating in an environment of unprecedented change. Evolving demands for transportation services, new technologies, workforce composition, stakeholders'

concerns, and a constantly changing political environment create continuing demands for institutional change. To address these challenges, many state DOTs are undertaking a range of initiatives such as strategic planning, organizational restructuring, performance measurement, process engineering, and outsourcing.

Both anecdote and survey suggest that change management is now the major preoccupation of senior management. However, the rate of change is very uneven and not well-understood. Indeed, there appears to be more innovation than imitation -- since the creative approaches being introduced are not documented or widely discussed. Little "literature" on state DOT change management has been developed -- either case studies or "how to" material.

AASHTO's Strategic Interest

A 1998 AASHTO report on "The Changing State DOT" identified drivers of change and approaches being taken by state DOTs in change management. AASHTO's Year 2000 Strategic Plan activities then introduced an element concerned with facilitating institutional change. Meanwhile, a newly reorganized TRB Committee on Strategic Management, through calls for papers and annual meeting sessions, focused on studying the range of changes occurring in transportation organizations. This led to the formation of a committee to plan a special workshop on strategic management under the joint sponsorship of the Transportation Research Board Committee on Strategic Management, AASHTO Standing Committee on Quality, and the Federal Highway Administration (FHWA).

The Strategic Management Workshop

The two-day workshop (June 25-27, 2000) in Minneapolis was organized to facilitate peer-to-peer discussions among the CEOs and senior staff of the state DOTs about their experiences in managing internal and external change. This workshop focused on sharing recent experiences with managing internal and external change and lessons learned. Twenty state DOT CEOs participated in the workshop, and 35 state DOTs were represented by CEOs or senior staff. Conference dialogue dealt with three principal management challenges:

- Strategic planning-related initiatives
- Workforce and reorganization-related initiatives
- Process and program delivery-related initiatives

The discussions identified a wide range of specific issues within each area that attendees felt deserve organized review via case studies, assessment of the state of the practice, and identification of promising concepts, approaches, and tools. Workshop participants used the results of these discussions to identify research that would help state DOTs lead and manage their changing organizations. Twenty-two research problem statements were crafted around the three subject areas.

TRB, at the urging of AASHTO and participating CEOs, immediately set up an NCHRP panel, chaired by Mary Peters of Arizona DOT, to develop a multiyear NCHRP research program under the 20-24 program established for special AASHTO research related to DOT administration. The panel combined and prioritized problem statements into eight strategic management issues for priority research. In view of the lack of written material on these subjects, the panel decided to start with broad "scans" of the state of the practice in each area to provide guidance for a substantive multiyear research program. Each scan would summarize the challenges, document examples of current innovations, and recommend the appropriate initial components of a research program. The eight-month scan program -- including presentations at AASHTO Board meeting roundtables -- represented a highly unusual rapid-response approach to the priority placed on these issues by AASHTO and TRB.

Cross-Cutting Findings from the Initial Eight Scans

The eight scans produced considerable evidence of

the number and breadth of change management initiatives within state DOTs. In general, these initiatives are concerned with the agencies as institutions, their mission and leadership, organization and workforce, process, and resources. The principal, common forces of change include

- Deliberate reorientation of strategic objectives in response to program limitations (Scan 3, operations), new technology (Scan 6, information technology), or funding (Scan 8, innovative finance)
- Evolution of new forms of cooperation for improved service delivery with other public agencies (Scan 7, partnerships) and the private sector (Scan 2, outsourcing)
- Workforce strategies (Scan 5) in response to downsizing, retirements, competition, and the need for new capabilities
- The need to institutionalize and measure change management (Scan 1, strategic leadership) and improve agency image in the overall constituent context (Scan 4, positioning)

Overall, state DOTs today appear to be evolving away from single-purpose entities with standard approaches to producing a limited number of well-understood products and services. Instead, they are moving toward more flexible organizations designed to respond to constantly changing missions with ever-increasing efficiency through a shifting coalition of partners and stakeholders. Managers of these changes can clearly benefit from access to collective experience, including a better sense of the state of the practice and specific resources based on the more promising approaches. The scans identify some of the most valuable experience and provide important pointers to key issues for further dialogue and research.

Individual Scan Highlights

Scan 1 -- Innovations in Strategic Leadership and Measurement for State DOTs: Strategic planning itself is increasingly widespread in state DOTs. However, many CEOs find that the process often breaks down in the implementation stage -- creating buy-in and "institutionalization" of key change vectors. Yet some promising solutions are being found, including widespread participation of a variety of stakeholders in the process, a customer focus in terms of strategy and priorities, top management commitment to implementing the strategic agenda, ongoing communication to promote it, and "omni-directional alignment" among goals, performance measures, and budgets. Further research in each of these areas is needed to strengthen and integrate strategic management practices. (Scan by T.H. Poister and D.M. Van Slyke of Georgia State University)

The full agency report has been published as NCHRP Web Document 39, Scan 1.

Scan 2 -- Innovations in Private Involvement in Project Delivery: Outsourcing -- commonly employed for construction and design services to cope with lumpy demands or staff downsizing -- is spreading to other functions within the project and service delivery functions. It is increasingly important to understand the relative costs and quality of work conducted in-house versus by external private firms. Current evidence is not conclusive, as cost comparisons may not have been systematic. More research and more collaborative efforts are required by transportation organizations to identify best practices and possible standard procedures. (Scan by Dr. D. Hancher, P.E. and R. Werkmeister, P.E., University of Kentucky)

The full agency report has been published as NCHRP Web Document 39, Scan 2.

Scan 3 -- Innovations in Institutionalization of Operations: Systems operations and management is already considered a mission priority by many state DOTs. However, the several types of operations-related activities -- ranging from ITS to maintenance of traffic -- are stovepiped and decentralized in most state DOTs. In most cases, there appears to be no common department-wide policy framework around

which to organize for efficient integration of services and sustainable funding. Some member departments are establishing performance measures by conducting customer surveys, but implementation for program management is still in the very early stages. Further case study research into promising approaches is needed to connect customer interests and performance measures to integrated operations activities. (Scan by Philip J. Tarnoff)

The author's full report has been published as NCHRP Web Document 39, Scan 3.

Scan 4 -- Innovations in DOT Communications, Image, and Positioning: The scan focused on states known to be addressing issues of communications, image, and positioning. Those that were most advanced focused on improving both internal communications with staff and external communications with the public, elected officials, and the media. Some innovative states are assessing their image and identifying ways in which to clarify and improve it with the public, recognizing that image enhancement and improved constituent communications may lead to an improved position for the agency, to new resources, and to a more supportive audience for the agency's work. Increasingly, states report that proactive efforts to better communicate and to position the agency positively with decision makers have led to increased public support and legislative funding for the DOTs. Additional research in communications, positioning, and marketing to various constituencies was felt to be needed. (Scan by K. Stein and R. Sloane of Howard/Stein-Hudson Associates)

The full agency report has been published as NCHRP Web Document 39, Scan 4.

Scan 5 -- Innovations in Work Force Strategies: State departments of transportation face severe challenges in recruiting and maintaining their workforces. Innovative approaches are being taken to recruitment of core competencies such as IT and senior civil engineering. Retention and succession approaches were also investigated, including mentoring and reverse mentoring. However, more case study and research are needed in defining, recruiting, and retaining the necessary workforce. (Scan by C. Gilliland of the Texas Transportation Institute)

The full agency report has been published as NCHRP Web Document 39, Scan 5.

Scan 6 -- Innovations in Organization Development as a Result of Information Technology: The rapidly changing environment of IT is challenging DOTs to deal with emerging opportunities and problems. This scan identified the range and types of new opportunities related to IT itself as well as related organizational development implications. Key issues include organization of the IT function, the cost-effective degree of outsourcing, and a range of management issues such as handling information overload, funding, procurement, and training. These areas suggest future research directions. (Scan by C. Cluett and K. Baker of Battelle Seattle Research Center)

The full agency report has been published as NCHRP Web Document 39, Scan 6.

Scan 7 -- Innovations in Public-Public Partnering and Relationship Building in State DOTs: A wide variety of partnerships among state DOTs; other state, local, and federal agencies; and public stakeholders are improving project and program delivery and increasing efficiency across agency or jurisdictional lines. Promising areas for partnering include achieving environmental streamlining, rationalizing state-local maintenance responsibilities, and joint community problem solving. Examination of successful partnerships and relationships identifies common elements of success and provides a starting point for the development of new partnering tools more applicable to longer-term, peer-to-peer relationships among DOTs; other state, local, and federal agencies; and non-governmental stakeholders. (Scan by Mark Ford of HDR-Portland)

The full agency report has been published as NCHRP Web Document 39, Scan 7.

Scan 8 -- Innovations in Project Financing: There is now a very rich menu of innovative revenue sources and finance techniques. New revenues are available from toll facilities, HOT lanes, value or congestion pricing, special assessments and fees, shared resource projects, and/or joint development. These revenues can be combined to leverage scarce federal aid through both debt and equity approaches, capitalizing on the new flexibility within the federal aid and some state programs. Such new approaches to project financing can also benefit from innovative project development approaches. Research is needed on promising approaches to mainstream these approaches within transportation agencies. (Scan by A. Reno and L. Hussey of Cambridge Systematics, Inc.)

The full agency report has been published as NCHRP Web Document 39, Scan 8.

Future Research Program

Based on the scan results, the NCHRP 20-24 Panel will develop a set of priorities for research, taking into account other ongoing research efforts and capitalizing on opportunities for combining related efforts. A multiyear program is under development, with the first projects expected to be procured late in 2001.

For information on obtaining printed copies or online versions of any TRB publications mentioned, click here.

This information was last updated on 11/19/2001.

To create a link to this page, use this URL: http://www4.trb.org/trb/crp.nsf/All+Projects/NCHRP+20-24(14)

-Announcements/Feedback-

TRB & FHWA Performance Measurement Web Boards!

Both the TRB Performance Measurement Committee and the FHWA will be developing web boards over the next 4-6 weeks to support the needs of the TRB Performance Measurement Committee as well as the needs of other performance measurement related Work Groups. The TRB board will feature the PMC Newsletter, Scope, & Strategic Plan, Discussion boards, auto mailing of site changes and Chat for members on the mailing list. The FHWA board will feature direct links to other performance measurement related communities in addition to auto mailing of site changes and discussion boards for all users. The FHWA is currently hosting the TRB PMC Newsletter, Scope, & Strategic Plan at an interim site until these boards can be developed. Please feel free to contact Sandra Straehl for questions regarding these boards.

FHWA PERFORMANCE RELATED RESEARCH, TRAINING, & TECHNICAL ASSISTANCE

Below is a summary of FHWA and FTA Transportation Planning Capacity Building program research, technical assistance and training related to performance measurement. Please send messages to ***David.Kuehn@fhwa.dot.gov*** or call at 202- 366-6072 if you have any questions.

- On going, Learning module on planning performance measures is part of the NHI/NTI Metropolitan Planning course. Contact NTI for more information on course dates: ***http://www.ntionline.com/***
- On going, learning module on public involvement evaluation including use of measures is part of the NHI/NTI Public Involvement courses. Contact NTI for more information on course dates: ***http://www.ntionline.com/***
- Spring/summer 2003, release of transportation planning performance measures scan. The scan reviewed a variety of State and local governments, and non-government stakeholders who use performance measurement to assess the quality of transportation programs.
- Summer/Fall 2003, OST/FHWA/FTA are co-sponsoring a national, by-invitation roundtable on the use of performance measurement in system planning.
- Fall 2003, Learning module on planning performance measurement in an updated NHI/NTI Statewide Planning course
- Fall 2003/Winter 2004 (proposed depending on available funds), provide planning performance measures case studies identified in the national roundtable
- Spring 2004 (proposed depending on available funds), support TRB workshop on use of performance measures in the transportation planning process

Committee Calls for Papers

Due August 1, 2003
83rd TRB Annual Meeting - January 11-15, 2004

Solicited and unsolicited papers for presentation and/or publication as part of the 83rd TRB Annual Meeting must be submitted directly to TRB by August 1, 2003. Papers addressing any relevant aspect of transportation research will be considered. However, some TRB Technical Activities (Division A) committees are soliciting papers in specific subject areas. Prospective authors are encouraged to review committee Calls for Papers below and to consult the Information for Authors page for guidance on preparing their manuscripts. Specific information on the procedures for submitting papers will be posted on TRB's Web page and advertised in TRB's Electronic Newsletter later this year.

Article Submission

The preceding newsletter is intended to be distributed via e-mail will be launched for the committee biannually. Areas within the newsletter will include: a message from the chair, information on upcoming conferences and meetings, information on the activities of other committees relative to PM, articles on performance measurement, and a forum for open questions and communication. The deadline for articles for the next edition will be November 20, 2003 emailed to mtierney@state.mt.us and should be no longer than 500 words. Word compatible graphics are encouraged and embedded web links or email addresses are fine.

Have a Great Independence Day!